

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method of updating a database schema for a database on a communication terminal which stores a plurality of content data, comprising:

- requesting that an update-information providing apparatus provide update-information about a latest version of a program used for the content data on the communication terminal and update information about a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table;
- receiving the update-information about the program and the update-information about the database schema, both transmitted from the update-information providing apparatus in response to the request;
- updating the program in accordance with the update-information about the program;
- comparing the database schema used by the updated program with the database schema already used by the communication terminal, in accordance with the update-information about the database schema, in terms of version;
- updating the database schema used by the communication terminal, in accordance with the update-information about the database schema, when it is determined in the comparing that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database

schema while the plurality of content data remains stored in a consistent state in the database;  
and

displaying information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 2 (Previously Presented): The method of updating a database schema, according to claim 1, wherein in updating the database schema, accesses to the database from the program are inhibited while the database schema is being updated.

Claim 3 (Previously Presented): The method of updating a database schema, according to claim 2, wherein in updating the database schema, accesses to the database from any application in the program are inhibited while the database schema is being updated.

Claim 4 (Previously Presented): The method of updating a database schema, according to claim 1, wherein in updating the database schema, the database schema is inhibited from being updated while the program is accessing the database.

Claim 5 (Previously Presented): The method of updating a database schema, according to claim 4, wherein in updating the database schema, the database schema is inhibited from being updated while any application in the program is accessing the database.

Claim 6 (Previously Presented): The method of updating a database schema, according to claim 1, wherein in updating the database schema, log information is recorded for each command issued to the database to update the database schema.

Claim 7 (Currently Amended): A communication terminal comprising:

- a processor;
- a memory for storing a database which stores a plurality of content data;
- requesting means for requesting that an update-information providing apparatus provide update-information about a latest version of a program used for the content data on the communication terminal and update information about a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table;
- receiving means for receiving the update-information about the program and the update-information about the database schema, both transmitted from the update-information providing apparatus in response to the request;
- program-updating means for updating the program in accordance with the update-information about the program;
- comparing means for comparing the database schema used by the updated program with the database schema already used by the communication terminal, in accordance with the update-information about the database schema, in terms of version;

database schema updating means for updating the database schema used by the communication terminal, in accordance with the update-information about the database schema, when the comparing means determines that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state the database; and

a display means for displaying information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 8 (Currently Amended): A method of providing update-information to a communication terminal which has a database storing a plurality of content data, comprising:

storing, in an update-information providing apparatus, update-information for a latest version of a program used for the content data on the communication terminal and update-information for a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table; and

transmitting the update-information for the program and the update-information for the database schema to the communication terminal when the communication terminal

requests the update-information for the program and the update-information for the database schema,

wherein the program is updated in the communication terminal in accordance with the update-information for the program, the database schema used by the program and the database schema already used by the communication terminal are compared in terms of version in accordance with the update-information for the database schema, and the database schema used by the communication terminal is updated in accordance with the update-information about the database schema, when it is determined from the result of comparison that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state in the database, and

the communication terminal displays information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 9 (Currently Amended): An update-information providing apparatus which provides update-information to a communication terminal which has a database storing a plurality of content data, the update-information providing apparatus comprising:

a processor;

storing means for storing update-information for a latest version of a program used for the content data on the communication terminal and update-information for a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the

database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table; and

transmitting means for transmitting the update-information for the program and the update-information for the database schema to the communication terminal when the communication terminal requests the update-information for the program and the update-information for the database schema,

wherein the program is updated in the communication terminal in accordance with the update-information for the program, the database schema used by the program and the database schema already used by the communication terminal are compared in terms of version in accordance with the update-information for the database schema, and the database schema used by the communication terminal is updated in accordance with the update-information about the database schema, when it is determined from the result of comparison that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state in the database, and

the communication terminal displays information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 10 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause a

communication terminal, which includes a database storing a plurality of content data, to perform a method for updating a database schema comprising:

requesting that an update-information providing apparatus provide update-information about a latest version of a program used for the content data on the communication terminal and update information about a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table;

receiving the update-information about the program and the update-information about the database schema, both transmitted from the update-information providing apparatus in response to the request;

updating the program in accordance with the update-information about the program;

comparing the database schema used by the updated program with the database schema already used by the communication terminal, in accordance with the update-information about the database schema, in terms of version;

updating the database schema used by the communication terminal, in accordance with the update-information about the database schema, when it is determined in the comparing that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state in the database; and

displaying information corresponding to the number of modified columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 11 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause an update-information providing apparatus to perform a method for providing update information to a communication terminal which has a database storing a plurality of content data, the method comprising:

storing, in an update-information providing apparatus, update-information for a latest version of a program used for the content data on the communication terminal and update-information for a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table; and

transmitting the update-information for the program and the update-information for the database schema to the communication terminal when the communication terminal requests the update-information for the program and the update-information for the database schema,

wherein the program is updated in the communication terminal in accordance with the update-information for the program, the database schema used by the program and the



database schema already used by the communication terminal are compared in terms of version in accordance with the update-information for the database schema, and the database schema used by the communication terminal is updated in accordance with the update-information about the database schema, when it is determined from the result of comparison that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state in the database, and the communication terminal displays information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 12 (Currently Amended): A communication terminal comprising:

a processor;

a memory for storing a database which stores a plurality of content data;

requesting unit configured to request that an update-information providing apparatus provide update-information about a latest version of a program used for the content data on the communication terminal and update information about a database schema which includes instructions on how to modify a database schema already used by the communication terminal to a database schema corresponding to the latest version, the database schema indicating what types of information related to the content data can be stored in the database for each of the plurality of content data and indicating a configuration for storing the types of information related to the content data in the database for each of the plurality of content data in the format of a table;

a receiving unit configured to receive the update-information about the program and the update-information about the database schema, both transmitted from the update-information providing apparatus in response to the request;

a program-updating unit configured to update the program in accordance with the update-information about the program;

a comparing unit configured to compare the database schema used by the updated program with the database schema already used by the communication terminal, in accordance with the update-information about the database schema, in terms of version;

a database schema updating unit configured to update the database schema used by the communication terminal, in accordance with the update-information about the database schema, when the comparing unit determines that the database schema needs to be updated, wherein updating the database schema includes at least modifying a number of columns in the table format of the database schema while the plurality of content data remains stored in a consistent state in the database; and

a display unit configured to display information corresponding to the modified number of columns, received from the update-information providing apparatus, that is related to the content data, the content data being audio content that is broadcast to and reproducible at the communication terminal, and the columns in the table format of the database schema corresponding to information about the audio content.

Claim 13 (Cancelled).

Claim 14 (Currently Amended): The method of updating a database schema, according to claim 12[[13]], wherein the columns in the table format of the database schema include at least a title of the audio content and an artist of the audio content.

Claim 15. (Previously Presented) The method of updating a database schema according to claim 1,

wherein the information corresponding to the modified number of columns includes lyrics of the audio content.

Claim 16. (Previously Presented) The method of updating a database schema according to claim 15,

wherein the lyrics of the audio content are not available prior to updating the database schema at the communication terminal.

Claim 17. (New) The method of updating a database schema according to claim 1, wherein the update-information providing apparatus provides the update-information asynchronously with respect to receiving the update-information, in response to a request.

Claim 18. (New) The method of updating a database schema according to claim 1, wherein the update-information is provided while the program is being broadcast to the communication terminal.